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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/311,070	05/13/1999	YOSHIHARU HIRAKATA	0756-1971	9732
31780	7590	04/23/2004	EXAMINER	
ERIC ROBINSON			NGUYEN, DUNG T	
PMB 955				
21010 SOUTHBANK ST.			ART UNIT	
POTOMAC FALLS, VA 20165			PAPER NUMBER	
			2871	

DATE MAILED: 04/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7, 10, 11, 25-41 and 43-46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-7, 10, 11, 25-41 and 43-46 is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)

4) ☐ International Search Report (PCT-413)

### DETAILED ACTION

Applicants' amendment dated 01/26/2004 has been received and entered.

By the amendment, claims 1-7, 10-11, 25-41 and 43-46 are now pending in the application.

Applicant's arguments with respect to claims 1 and 3 have been considered but are moot in view of the new ground(s) of rejection.

#### *Claim Rejections - 35 USC § 103*

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masaya et al., JP 07-230101, in view of Murade et al., US Patent No. 6249327 and Hatano et al., US Patent No. 6,084,647.

Regarding claims 1-4, Masaya et al. disclose an active-matrix LCD (figure 11) comprising:

- a switching element (thin film transistor TFT);
- a pixel electrode (410) connected to the switching element;
- a first reflective layer (a dielectric multi-layer film 409) contacted with the pixel electrode;
- a liquid crystal layer (414) inherently sealed between a pair of substrate (401, 411).

Although Masaya et al. do not explicitly disclose a thickness of the pixel electrode being in the range of 50.5nm to 88.4nm, Murade et al. do disclose a thickness of the pixel electrode can

be formed in the range 50 to 200 nm (col. 16, ln. 10). Thus, such disclosed range in Murade et al. makes possible the claimed range of 50.5nm to 88.4nm, and overlapping ranges are at least obvious. In re Malagari, 499 Fed.2d 1297, 182 USPQ 549 CCPA 1974.

Masaya et al. do not disclose the dielectric multi-layer film comprises a material selected from the group consisting of SiO<sub>2</sub>, MgF<sub>2</sub>, acrylic, polyimide, etc. Hatano et al. do disclose that a multi-layer film of a dielectric such as MgF<sub>2</sub> can be used in an LCD device (col. 10, lines 38-39). Therefore, it would have been obvious to one skilled in the art at the time of the invention was made was employ the Masaya et al. dielectric multi-layer film by MgF<sub>2</sub> as shown by Hatano et al. in order to improve an image display with a wide viewing angle (col. 6, lines 34-41).

#### *Allowable Subject Matter*

3. Claims 5-7, 10-11, 25-41 and 43-46 are allowed.

None of the prior art suggests or discloses a reflection layer on a transparent conductive common electrode and a pixel electrode formed on the reflection layer to form an auxiliary capacitance as set forth in claims 5 and 10. In addition, a reflection layer comprising at least first, second, third and fourth laminated dielectric layers with a material selected from the specific group as set forth in claims 5, 10, 25, 27, 31, 37-38 and 41.


#### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung Nguyen whose telephone number is 571-272-2297. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*DN*  
*04/19/2004*



**Dung Nguyen**  
**Primary Examiner**  
**Art Unit 2871**